Trends in the Periodic Table

1. Which of the data was available to Mendeleev when he was developing the periodic table?

1. What does the term periodic variation mean?
2. Plot graphs to show how the following characteristics of the elements vary with atomic number. Use the spreadsheet in excel.

a. number of electrons in the outer shell

1. density
2. melting temperature
3. electronegativity
4. atomic radius
5. first ionisation energy

For this question; you may use the data or information from the following website –

<http://hi.com.au/chemtwotrb/> 🡪 follow the links to ***exercise 30 – Unit 4.***

\*\*\*or other sources...

1. Examine the graphs you have plotted in question 3. Explain the periodic variation shown in each of these graphs
2. Account for the trends observed for electronegativity, atomic radius, and first ionisation energy down a group
3. Use the graphs from question 3 to predict the properties of Element 37. Compare the predictions with actual values listed in the periodic table at the back of the chemistry book.

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